Surveying in Floodplains

NHLSA Annual Meeting
December 2, 2016

Jennifer Gilbert, CFM
Senior Planner, Floodplain Management Program Coordinator
New Hampshire Office of Energy and Planning

Agenda

- NFIP Updates
- FEMA Floodplain Maps and Studies
- FEMA Elevation Certificate
- Letter of Map Changes

2

National Flood Insurance Program

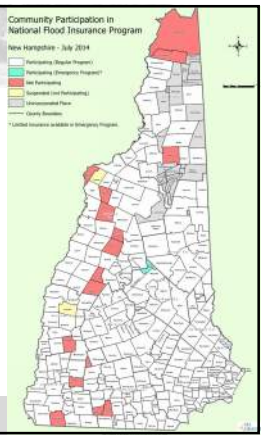
NFIP

Mapping Regulations Insurance

3

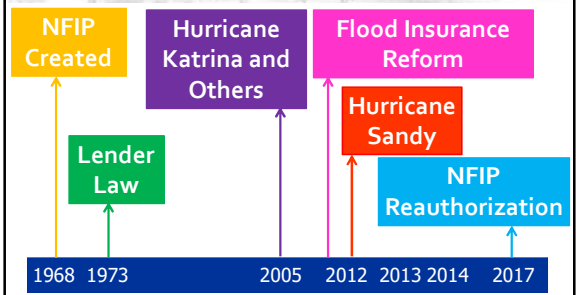
NFIP Participation in New Hampshire

- 217 communities (92%) participate
- 18 communities (8%) do not participate



4

NFIP Timeline



5

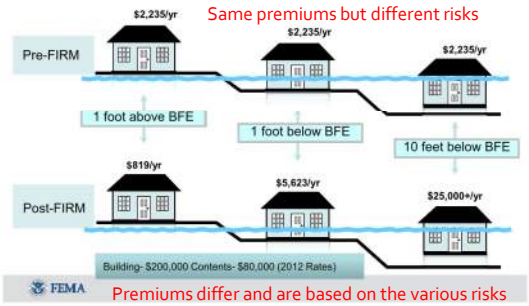
Pre-FIRM / Community Initial Flood Insurance Rate Map (FIRM) / Post-FIRM

Pre-FIRM
- Built before 1st map
- Pay less than full risk
- About 40% of structures in NH

Post-FIRM
- Built or substantially improve after 1st map
- Already pay full risk
- About 60% of structures in NH

6

NFIP Rating Examples:
The Impact of Loss of Subsidies

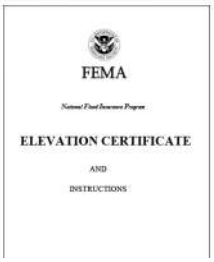


Overview of Flood Insurance Changes

- **Biggert-Waters Flood Insurance Reform Act of 2012**
  - Implementation began in October 2013
  - Some rate increases to full risk were immediate and significant
  - Big impact on real estate market
- **Homeowners Flood Insurance Affordability Act of 2014**
  - Implementation began in June 2014
  - Repealed and modified provisions of Biggert-Waters
  - Slowed rate increases but still moving to full risk rates

Full Risk Rates

- Full-risk rates are property-specific and elevation-rated
- Completion of a FEMA Elevation needed to determine a structure's ful risk rate


FEMA

ELEVATION CERTIFICATE

AND

INSTRUCTIONS

Properties Seeing Highest Premium Rate Increases

Increases of 25% per year until reach full risk rates:

- Non-Primary Residences (<50% of year)
- Non-Residential Business
  - Named insured is commercial enterprise carried out to generate income; business building or mixed use building
- Severe Repetitive Loss Properties

2017 NFIP Reauthorization & Reform

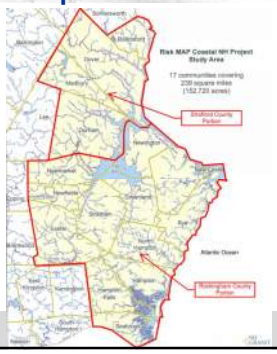
- **NFIP Reauthorization**
  Biggert-Waters Flood Insurance Reform Act of 2012 extended the NFIP authority through **September 30, 2017**.
- **Flood Insurance Market Parity and Modernization Act (H.R. 2901)**
  Legislation to facilitate development of a more robust private market for private flood insurance.

Floodplain Mapping

Current Status of Digital Floodplain Maps in NH

County	Map Effective Date
Carroll	03/19/2013
Cheshire	05/23/2006
Coos	02/20/2013
Grafton	02/20/2008
Hillsborough	09/25/2009
Merrimack	04/19/2010
Rockingham	05/17/2005
Strafford (partial)	05/17/2005
Strafford (partial)	09/30/2015
Sullivan	05/23/2006

Belknap County – No Digital Maps



Vertical Datum on NH Maps

NGVD 1929

- Belknap
- Grafton
- Rockingham
- Strafford *(Non-Coastal only)*

NAVD 1988

- Carroll
- Cheshire
- Coos
- Hillsborough
- Merrimack
- Strafford *(Coastal portion only)*
- Sullivan

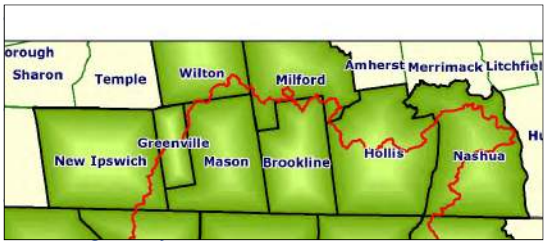
14

FEMA Discovery Projects in NH

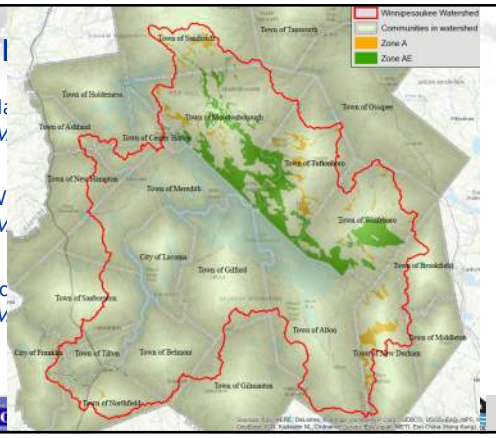
- Nashua River Watershed by USGS *(Meeting held in 4/16)*
- Winnipesaukee River Watershed by USGS *(Meeting held in 9/16)*
- Lower Connecticut River Watershed by UNH *(Meeting in early 2017)*

15

FEMA Discovery Projects in NH



16



FEMA Discovery Projec

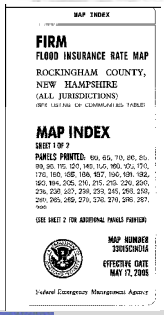
- Nashua River Watershed by USGS *(Meeting held in 4/16)*
- Winnipesaukee River Watershed by U *(Meeting held in 9/16)*
- Lower Connecticut River Watershed b *(Meeting in early 2017)*

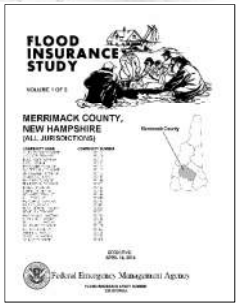
18

FEMA Mapping Projects in NH

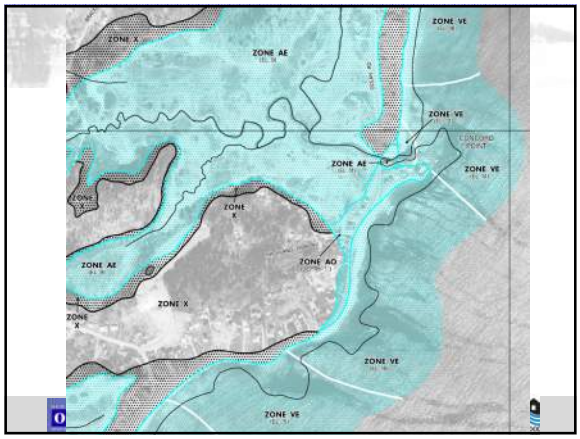
- Merrimack River Basin (USGS)
- Salmon Falls-Piscataqua Rivers Watershed (outside of current Coastal Project area) (UNH)

Flood Insurance Rate Maps (FIRM) and Flood Insurance Study (FIS)

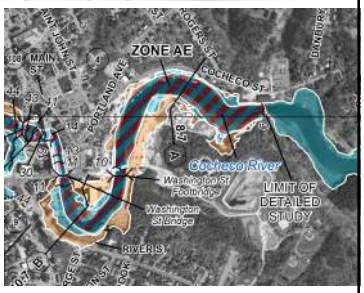

MAP INDEX
FIRM
FLOOD INSURANCE RATE MAP
ROCKINGHAM COUNTY, NEW HAMPSHIRE
(ALL JURISDICTIONS)
MAP INDEX
SHEET 1 OF 2
MAP NUMBER
33015CIND1A
EFFECTIVE DATE
MAY 17, 2006
Federal Emergency Management Agency


FLOOD INSURANCE STUDY
MERRIMACK COUNTY, NEW HAMPSHIRE
(ALL JURISDICTIONS)
Federal Emergency Management Agency

20



New Digital FIRMs



22

Where to Find Floodplain Maps

FEMA Map Service Center

FEMA's National Flood Hazard Layer

NH GRANIT

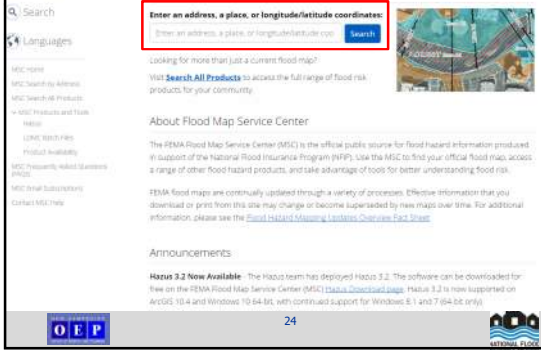
GRANITView II v0

New Hampshire Coastal Viewer

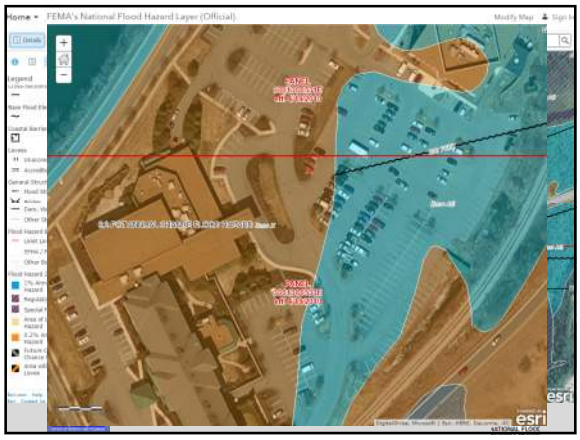
23

FEMA Flood Map Service Center: Welcome!

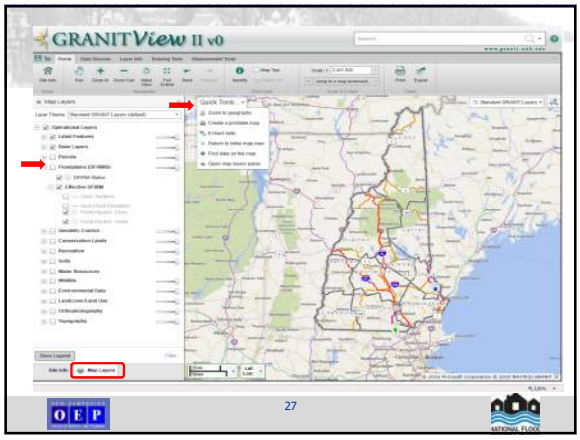
www.msc.fema.gov/portal



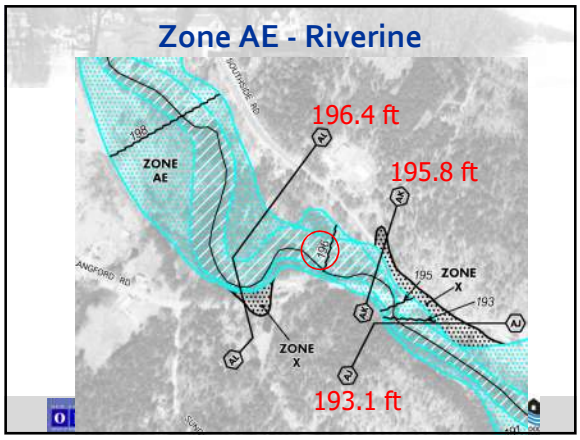
24

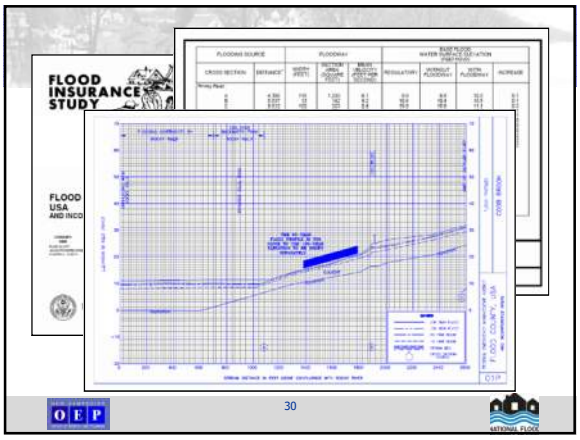


GRANITViewII



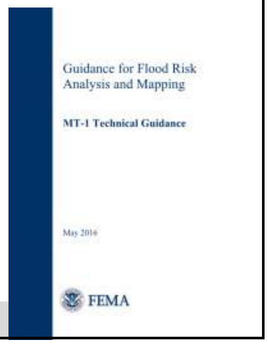
Where to Find BFEs





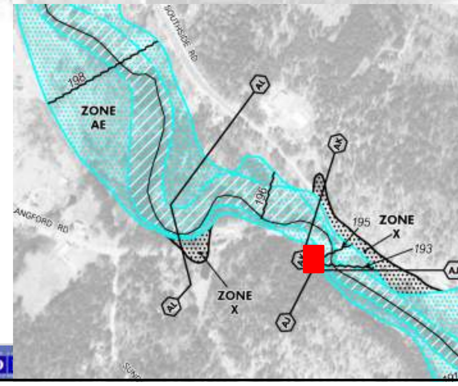
Steps on Using the FIS to Determine the BFE

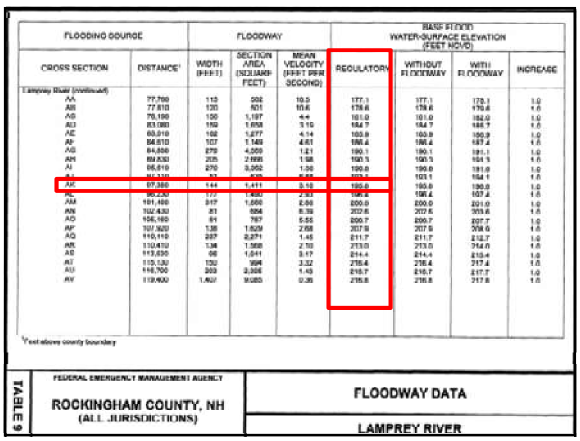
- **Riverine BFE**
  - Floodway Data Table
  - Flood Profile
- **Pond & Lake BFE**
  - Summary of Stillwater Elevations Table



OEP 31

Zone AE - Riverine





FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lamprey River (continued)								
AA	77,700	113	506	10.5	177.1	177.1	178.1	1.0
AB	77,810	120	501	10.6	178.6	178.6	179.6	1.0
AC	79,190	130	1,197	4.4	181.0	181.0	182.0	1.0
AD	83,080	150	1,658	3.19	184.7	184.7	185.7	1.0
AE	85,010	102	1,277	4.14	185.9	185.9	186.9	1.0
AF	86,810	107	1,149	4.61	186.4	186.4	187.4	1.0
AG	[illegible]	279	4,000	1.21	190.1	190.1	191.1	1.0
AH	[illegible]	205	[illegible]	1.58	190.3	190.3	191.3	1.0
AI	[illegible]	270	[illegible]	1.30	[illegible]	[illegible]	[illegible]	1.0
AJ	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	193.1	194.1	1.0
AK	97,380	144	1,411	3.10	[illegible]	[illegible]	[illegible]	1.0
AL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	196.4	197.4	1.0
AM	101,400	317	1,600	2.00	200.0	200.0	201.0	1.0
AN	102,430	81	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.0
AO	106,160	81	787	[illegible]	206.7	206.7	207.7	1.0
AP	107,920	138	1,629	2.68	207.9	207.9	208.9	1.0
AQ	110,110	207	2,271	1.45	211.7	211.7	212.7	1.0
AR	110,410	138	1,368	2.10	213.0	213.0	214.0	1.0
AS	113,030	66	1,041	3.17	214.4	214.4	215.4	1.0
AT	115,132	130	[illegible]	3.32	216.4	216.4	217.4	1.0
AU	116,700	303	2,306	1.43	216.7	216.7	217.7	1.0
AV	119,400	1,407	[illegible]	0.38	216.8	216.8	217.8	1.0

[1]Feet above county boundary

TABLE 9 | FEDERAL EMERGENCY MANAGEMENT AGENCY | ROCKINGHAM COUNTY, NH (ALL JURISDICTIONS) | FLOODWAY DATA | LAMPREY RIVER

Figure 7: Measuring to Subject from a Cross Section

OEP 34

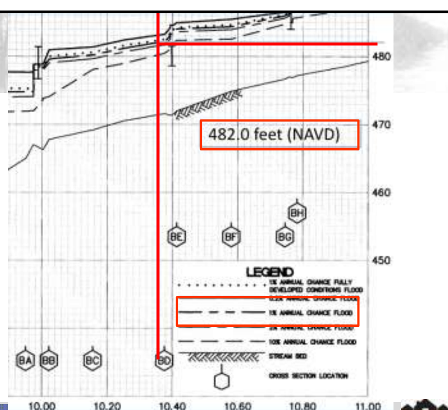


Figure 8: Stream Profile Used to Obtain BFE

OEP

Zone AE – Lakes, Ponds, Ocean

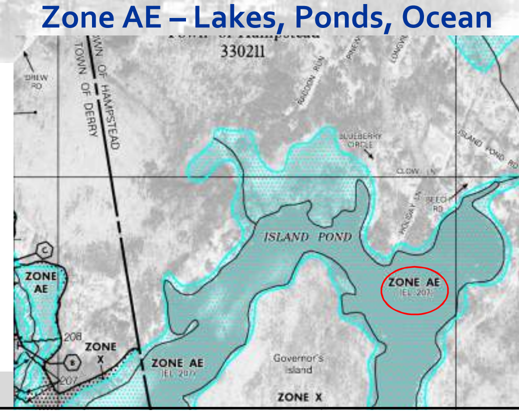


TABLE 5 - SUMMARY OF STILLWATER ELEVATIONS

FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD[1]) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ADAMS POND				
At Derry	326.0	327.1	327.3	328.1
ATLANTIC OCEAN				
Entire shoreline within North Hampton and Rye	8.3	8.9	9.2	9.8
Entire shoreline within Hampton, Hampton Falls, New Castle, Seabrook, and Seabrook Beach	8.2	8.9	9.2	9.8
Entire shoreline within Portsmouth	8.0	8.6	8.9	9.5
BEAVER LAKE				
At Derry	287.9	289.3	289.6	294.0
COUNTRY POND				
Entire shoreline with Kingston	*	*	120.8	*
GREAT BAY				
Entire shoreline of the Squamscott River within the Exeter corporate limits to a point approximately 370 feet downstream of Chestnut Hill Avenue	7.1	7.6	7.9	8.4
Entire shoreline within Greenland, and Newington, and the entire shoreline of Great Bay and Lamprey River downstream of from MacCallen Dam in Newmarket	6.4	7.0	7.2	7.8
Entire shoreline of the Squamscott River within Newfield, and the entire shoreline within Stratham	6.9	7.5	7.7	8.2
GREAT POND				
Entire shoreline within Kingston	*	*	121.8	*
ISLAND POND				
At the Towns of Derry and and Atkinson's corporate limits, in Derry, and the entire shoreline within Hampstead	205.5	206.4	206.8	208.2

[1]National Geodetic Vertical Datum of 1929
*Data Not Available

Coastal Areas

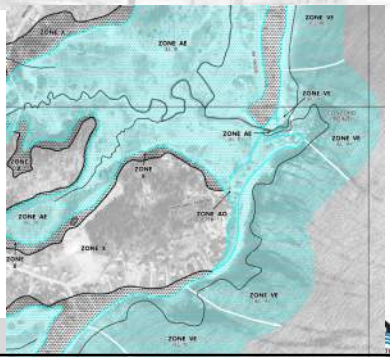
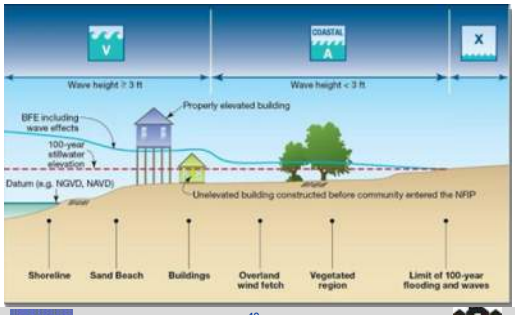


TABLE 5 - SUMMARY OF STILLWATER ELEVATIONS

FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD[1]) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ADAMS POND				
At Derry	326.0	327.1	327.3	328.1
ATLANTIC OCEAN				
Entire shoreline within North Hampton and Rye	8.3	8.9	9.2	9.8
Entire shoreline within Hampton, Hampton Falls, New Castle, Seabrook, and Seabrook Beach	8.2	8.9	9.2	9.8
Entire shoreline within Portsmouth	8.0	8.6	8.9	9.5
BEAVER LAKE				
At Derry	287.9	289.3	289.6	294.0
COUNTRY POND				
Entire shoreline with Kingston	*	*	120.8	*
GREAT BAY				
Entire shoreline of the Squamscott River within the Exeter corporate limits to a point approximately 370 feet downstream of Chestnut Hill Avenue	7.1	7.6	7.9	8.4
Entire shoreline within Greenland, and Newington, and the entire shoreline of Great Bay and Lamprey River downstream of from MacCallen Dam in Newmarket	6.4	7.0	7.2	7.8
Entire shoreline of the Squamscott River within Newfield, and the entire shoreline within Stratham	6.9	7.5	7.7	8.2
GREAT POND				
Entire shoreline within Kingston	*	*	121.8	*
ISLAND POND				
At the Towns of Derry and and Atkinson's corporate limits, in Derry, and the entire shoreline within Hampstead	205.5	206.4	206.8	208.2

[1]National Geodetic Vertical Datum of 1929
*Data Not Available

Transects



40

FIS Transect Data Table

TABLE 7 – TRANSECT DATA

FLOODING SOURCE	STILLWATER ELEVATION (feet NGVD 29) 10-YEAR	100-YEAR	ZONE	BASE FLOOD ELEVATION[1] (feet NGVD 29)
ATLANTIC OCEAN				
Transects 1-2	8.2	9.2	VE	11-18
			AE	9-13
Transects 3-10	8.3	9.2	VE	12-22
			AE	9-12
			AO	1'-2' (Depth)
Transects 11-12	8.3	9.2	VE	14-23
			AE	9
			AO	1' (Depth)
Transects 13-14	8.2	9.2	VE	12-14
			AE	9

[1]Because of map scale limitations, base flood elevations shown on the FIRM represent average elevations for the zones depicted

Determining the BFE in Zone AO

Zone AO

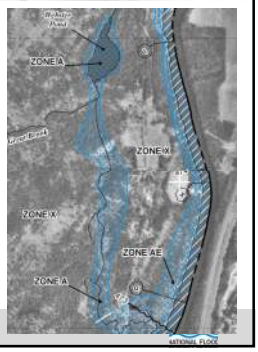
Highest Adjacent Grade
+ Depth Number on FIRM
Flood Elevation

44

Determining the BFE in Zone A

Why are there Zone As with no BFE?

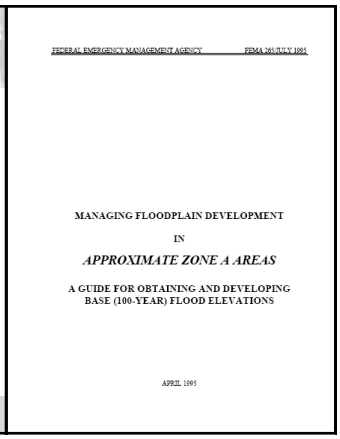
- Not cost effective in areas where there is no or little development
- Zone A Floodplain areas based on approximate methods or historical flood data
- LiDAR is helping



46

FEMA Guidance Document

Managing Floodplain Development in Approximate Zone A Areas



FEDERAL EMERGENCY MANAGEMENT AGENCY FEMA 265/JULY 1995

MANAGING FLOODPLAIN DEVELOPMENT
IN
APPROXIMATE ZONE A AREAS
A GUIDE FOR OBTAINING AND DEVELOPING BASE (100-YEAR) FLOOD ELEVATIONS

APRIL 1995

Determining BFE for a LOMA

For LOMA purposes, determine if any base flood elevation data is available from:

- Federal (USACE, USGS)
- State (DOT, DES, OEP)
- Community
  - All proposals for development greater than 50 lots or 5 acres, whichever is the lesser, include BFE data within such proposals

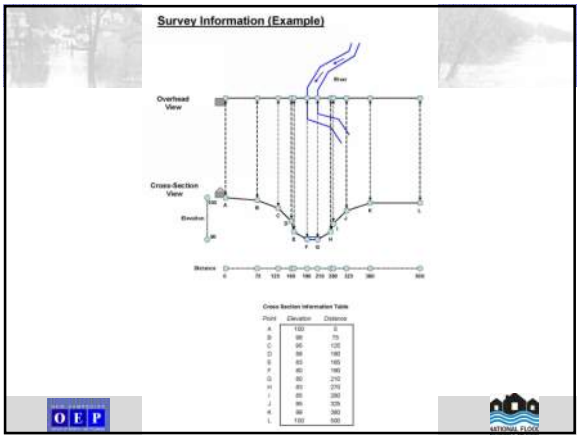
48

LOMA in Zone A with no BFE

- Submit letter with LOMA application stating checked with sources and request FEMA to determine BFE
- FEMA may required local survey data:
  - Surveyed cross section(s) of property
  - Culvert, bridge, or dam data if in vicinity of property

Fact Sheet #6 - Surveying for a LOMA in Zone A

49



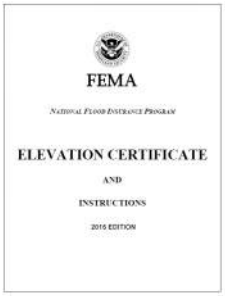
Questions

51

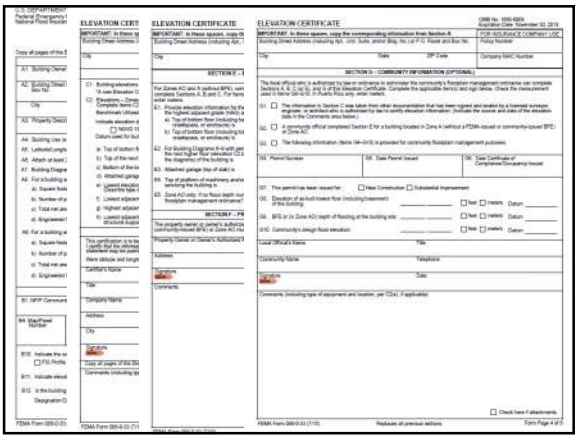
FEMA Elevation Certificate

FEMA Elevation Certificate

- Current version released in
- Expiration date: 11/30/2018



53



FEMA Elevation Certificate

NFIP Administrative Tool:

- Community compliance
- Building elevation certification
- Policy rating
- Map amendment/revision support

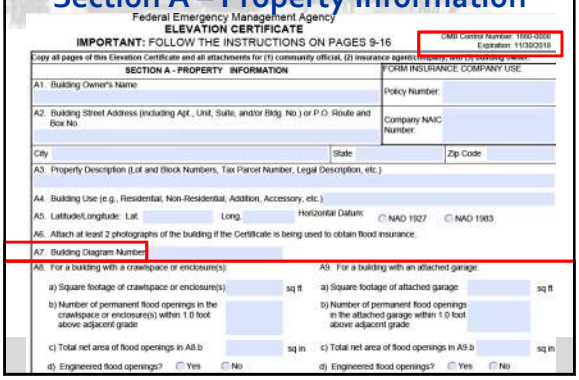
55

Elevation Certificate Sections

Section A – Property Information
Section B – FIRM Information
Section C – Building Elevation Information
Section D – Certification
Section E – Building Elevation (no BFE)
Section F – Property Owner Certification
Section G – Community Information

56

Section A – Property Information



Federal Emergency Management Agency
ELEVATION CERTIFICATE
IMPORTANT: FOLLOW THE INSTRUCTIONS ON PAGES 9-16

OMB Control Number: 1660-0008
Expiration: 11/30/2018

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A - PROPERTY INFORMATION | FOR INSURANCE COMPANY USE

A1. Building Owner's Name | Policy Number:

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. | Company NAIC Number:

City | State | Zip Code

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)

A5. Latitude/Longitude: Lat. Long. Horizontal Datum: NAD 1927 NAD 1983

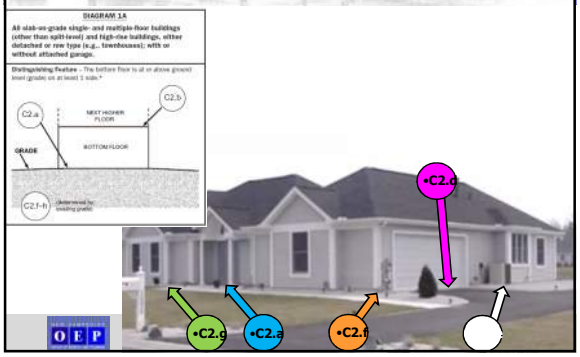
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number

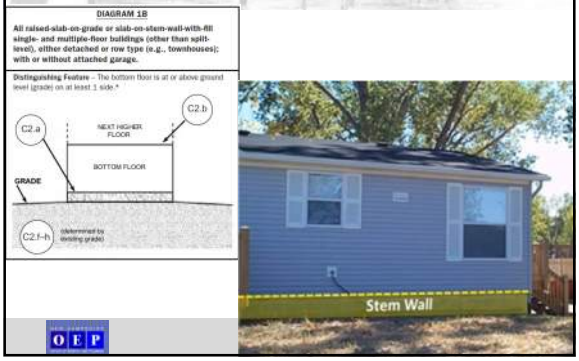
A8. For a building with a crawlspace or enclosure(s):
a) Square footage of crawlspace or enclosure(s) sq ft
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade
c) Total net area of flood openings in A8.b sq in
d) Engineered flood openings? Yes No

A9. For a building with an attached garage:
a) Square footage of attached garage sq ft
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade
c) Total net area of flood openings in A9.b sq in
d) Engineered flood openings? Yes No

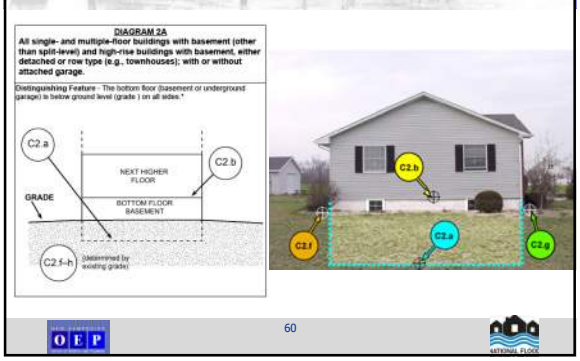
Building Diagram #1A



Building Diagram #1B

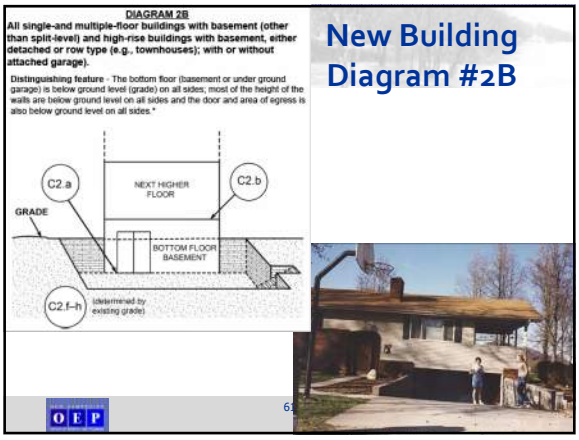


Building Diagram #2A (previously #2)

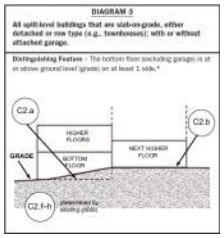


60

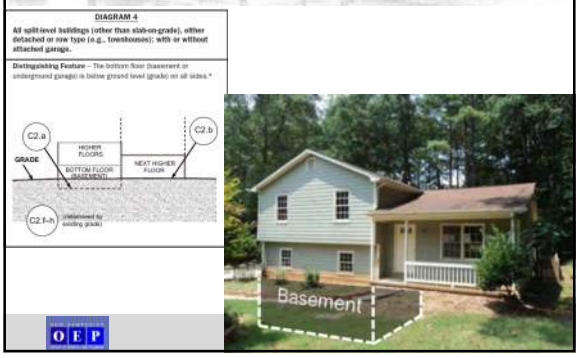
New Building Diagram #2B



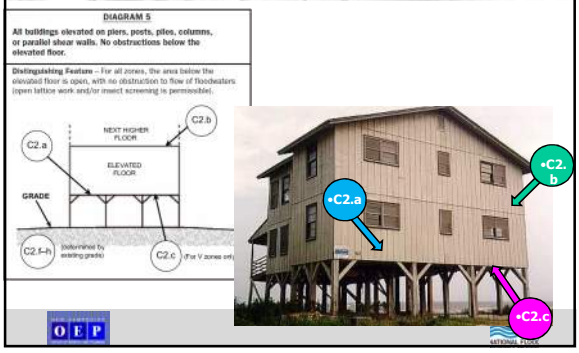
Building Diagram #3



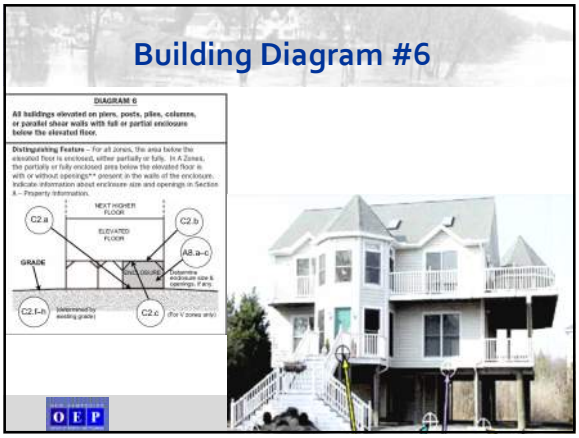
Building Diagram #4



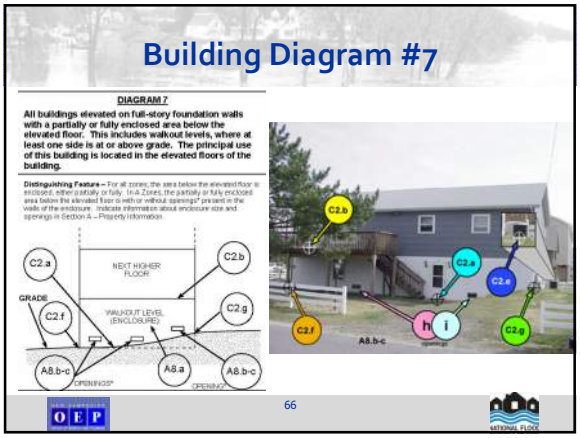
Building Diagram #5



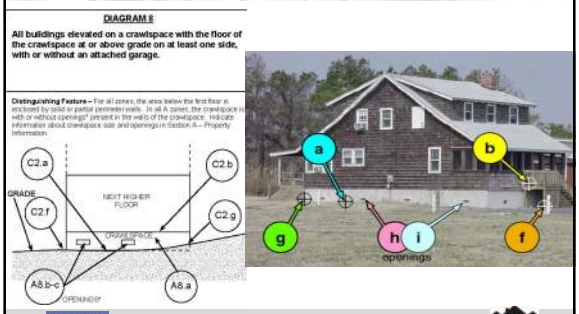
Building Diagram #6



Building Diagram #7



Building Diagram #8



67

Building Diagram #9

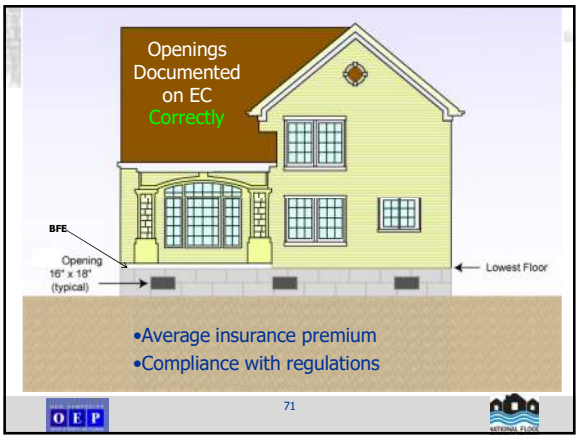
68

69

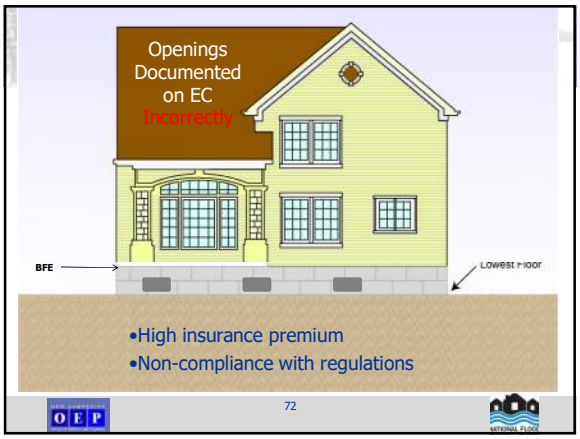
Importance of Correctly Documenting Flood Openings on EC

- If no openings are documented or are documented incorrectly on the EC, it can affect:
  - What is considered the lowest floor
  - Flood insurance premium
  - Compliance with community's regulations

70



71



72

Purpose of Flood Openings

Allow water to flow in and out to relieve pressure of standing or slow-moving water

Two Types of Flood Openings

Engineered Openings

– Designed and certified by a registered design professional as meeting the performance required by regulations.

Non-Engineered Openings

– Openings used to satisfy the prescriptive requirements. Wide variety of options are available to satisfy these requirements.

Engineered Vents

A label on every Smart Vent identifies the ICC-ES report number (ESR), the model number, and the area of certified coverage.

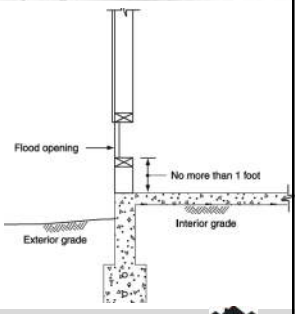
Sources: Smart Vent and American Surveyor

Non-Engineered Flood Opening Requirements

- Must be on at least 2 different walls
- The total square inches of flood openings must be equal to or greater than the square footage of enclosure
  - Example: An 800 sqft enclosure must have at least 800 square inches of openings

Non-Engineered Flood Opening Requirements

- The bottom of a flood opening cannot be more than 1 foot above the grade (interior or exterior, whichever is higher)



Examples of Non-Engineered Flood Openings

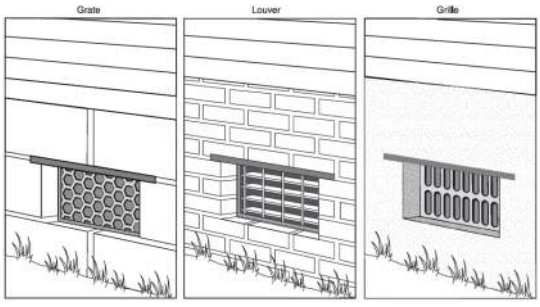


Figure 16. Examples of typical air vents used as flood openings (net open area varies)

Examples of Non-Engineered Flood Openings

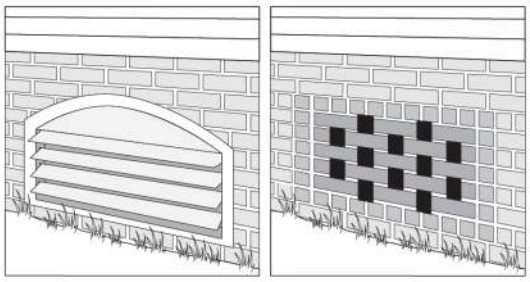
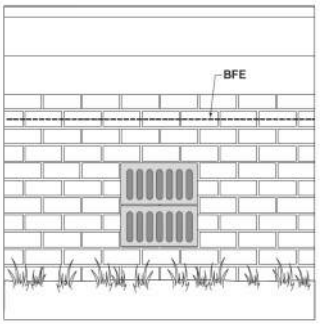


Figure 18. Decorative treatments using fixed louvers and brickwork (count the "net open area" or have certified as engineered openings)

Examples of Non-Engineered Flood Openings

Figure 13. Stacked vents inserted in large openings must be below the BFE



Examples of Non-Engineered Flood Openings

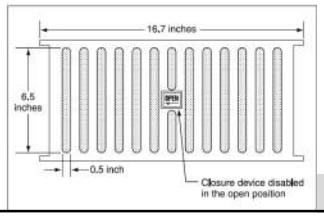
Figure 19. Foundation wall with omitted blocks as flood openings (insect screen not visible)

Important Points about Non-Engineered Flood Vents

- Know how to determine the net opening of the non-engineered flood openings
  - Net open area is **not** the size of the vent itself
  - Net open area can usually be found on face of vent.

Figure 14. Typical standard air vent faceplate (this example provides 42 square inches of net open area)

Ventilation vent must be permanently disabled in the open position to count as an opening



Important Points about Non-Engineered Flood Vents

- Insect screens are allowed if they don't impede the flow of floodwaters
- Openings may be installed in garage and crawlspace doors
- **Not** counted as openings
  - Any type of door
  - Any type of glass windows

83

Unacceptable Flood Openings

Source: SmartVent

84

Section B – FIRM Information

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number | B2. County Name | B3. State

B4. Map/Panel Number | B5. Suffix | B6. FIRM Index Date | B7. FIRM Panel Effective/ Revised Date | B8. Flood Zone(s) | B9. Base Flood Elevation(s) (Zone AO, use base flood depth)

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:
FIS Profile FIRM Community Determined Other/Source:

B11. Indicate elevation datum used for BFE in Item B9: NGVD 1929 NAVD 1988 Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? Yes No
Designation Date: CBRS OPA

Is BFE provided to the nearest tenth?

87

Acceptable Sources of BFE

- FIS
- FIRM
- Zone A (no BFE)
  - Other State or Federal Agency's Determination
  - Community Determination

88

Unacceptable Sources of BFE

- Property owner's determination of the highest flood height on their property
- A LOMA for another property
- Personal opinion about what the base flood elevation should be

89

Section C – Building Elevation Information

"NA" should be entered in all non-applicable data fields.

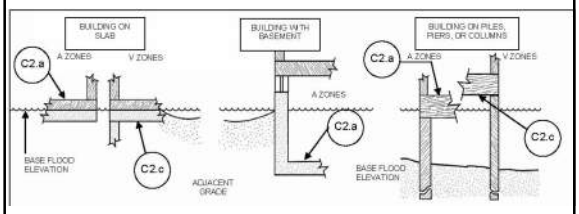
SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: Construction Drawings* Building Under Construction* Finished Construction
C2. Elevations - Zones A1 - A30, AE, AH, A (with BFE), VE, V1 - V30, V (with BFE), AR, AR/A, AR/AE, AR/A1 - A30, AR/AH, AR/AO.
Complete Items C2.a -h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.
A new Elevation Certificate will be required when construction of the building is complete.

Benchmark Utilized: Vertical Datum:
Indicate elevation datum used for the elevations in items a) through h) below. NGVD 1929 NAVD 1988
Other/Source:

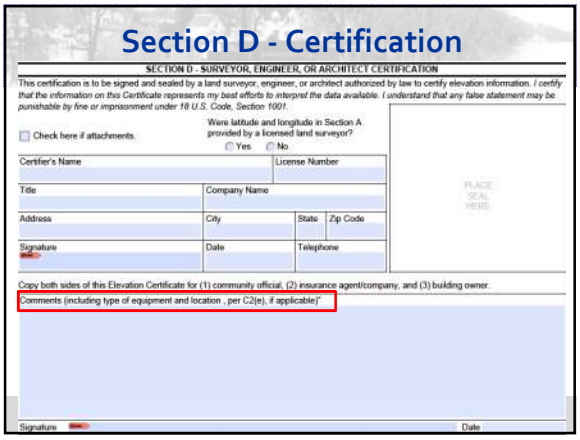
Datum used for building elevations must be the same as that used for the BFE			Check the measurement used
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)			feet meters
b) Top of the next higher floor			feet meters
c) Bottom of the lowest horizontal structural member (V Zones only)			feet meters
d) Attached garage (top of slab)			feet meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)			feet meters
f) Lowest adjacent (finished) grade next to building (LAG)			feet meters
g) Highest adjacent (finished) grade next to building (HAG)			feet meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support			feet meters

Bottom Floor Elevation

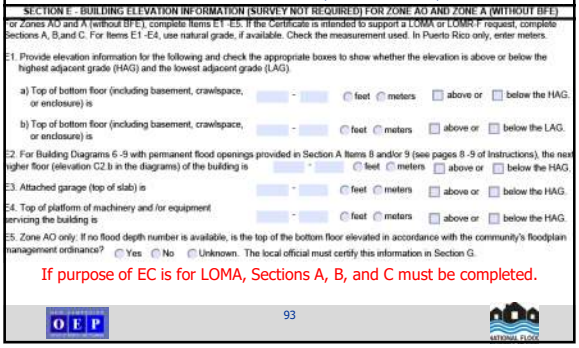


91

Section D - Certification



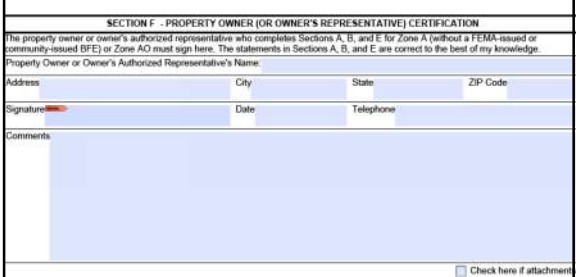
Section E – Building Elevation Information (No BFE)



If purpose of EC is for LOMA, Sections A, B, and C must be completed.

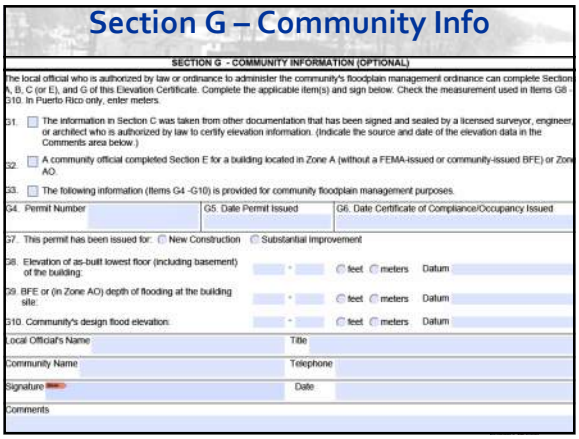
93

Section F – Property Owner Certification



94

Section G – Community Info



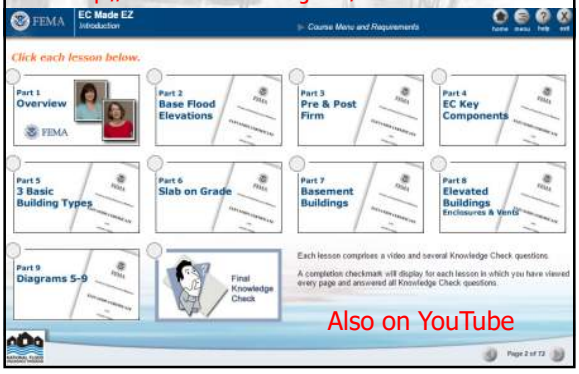
Education and Training

- **Webinars**
  www.nh.gov/oep/planning/programs/fmp/news-events.htm
  - Elevation Certificates
    - January 5, 2017 from 1 PM to 3:30 PM
  - Tools for Determining the BFE
    - January 12, 2017 from 1 PM to 2 PM
- **FEMA Independent Study course**
  https://training.fema.gov/is/courseoverview.aspx?code=IS-1103
  - Elevation Certificate for Surveyors
    2 hours (0.2 CEUs)

96

EC Made EZ Videos

http://floodinsurancetraining.com/ec-made-ez-online



Questions

Letter of Map Changes (LOMC)

Lender Floodplain Requirements

- Flood Disaster Protection Act of 1973
- National Flood Insurance Reform Act of 1994
- Lending institutions cannot make, increase, extend, or renew a loan for a building located in the floodplain without NFIP flood insurance

FEMA Letter of Map Amendment (LOMA)

- Official FEMA process to remove a structure or entire or portion of a property inadvertently included in the floodplain
- Usually the only documentation that a lender will accept to release the flood insurance requirement
- Must prove through elevation data that the structure is located on ground higher than the floodplain

Lowest Adjacent Grade (LAG)

- LAG is primary elevation for removal (NOT the structure's lowest floor)
- LAG includes any attached accessory such as garage attached to house by breezeway/deck, etc.

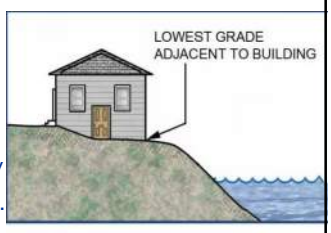


Figure 1: LAG - Lowest Ground Touching a Structure

Lowest Adjacent Grade (LAG)

- LAG includes any support for any portion of the structure and must include ground elevation at point where any piers, posts, or columns touch ground.
- Supporting member entirely or partially in water will not be removed.

Figure 2: LAG - Structure with Attached Deck

103

Letter of Map Amendment (LOMA) (MT-EZ Form)

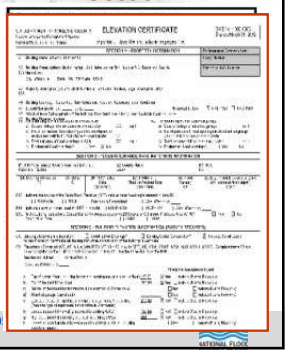
- Removes an existing Single-Residential Structure or Lot, which is not elevated on fill.
- No application fee
- Upon receipt of all required data, FEMA issues a determination within 60 days.

104

MT-EZ Forms

Section A

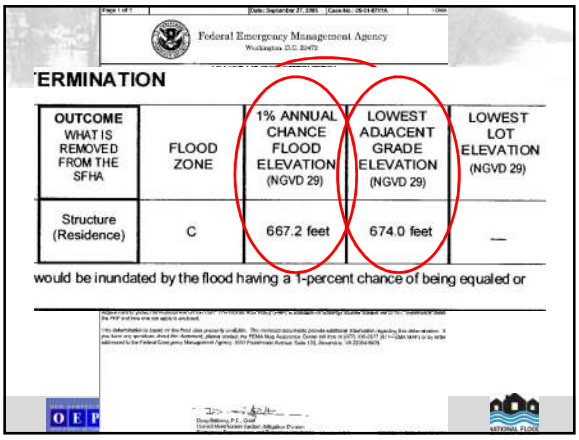
Section B



Additional Information Required with MT-EZ Forms

1. Copy of effective FIRM (FIRMette)
2. Copy of Subdivision Plat Map
   OR
   Copy of the Property Deed accompanied by Tax Map or other certified map

106


Federal Emergency Management Agency

ERMINATION

OUTCOME WHAT IS REMOVED FROM THE SFHA	FLOOD ZONE	1% ANNUAL CHANCE FLOOD ELEVATION (NGVD 29)	LOWEST ADJACENT GRADE ELEVATION (NGVD 29)	LOWEST LOT ELEVATION (NGVD 29)
Structure (Residence)	C	667.2 feet	674.0 feet	—

would be inundated by the flood having a 1-percent chance of being equaled or

Letter of Map Amendment (LOMA) and Letter of Map Revision based on Fill (LOMR-F) (MT-1 Form)

- Existing or Multiple Residential Structures/Lots (LOMA) or Proposed (CLOMA)
- Existing Structure(s) Built on Fill (LOMR-F) or Proposed (CLOMR-F)
- Existing Structure(s) inadvertently included in Regulatory Floodway
- Application fee for LOMR-F
- Upon receipt of all required data, FEMA issues a determination within 60 days.

108

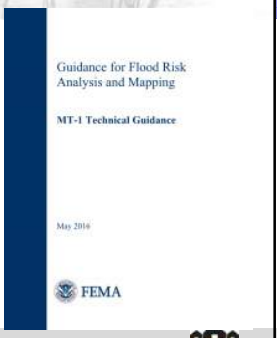
MT-1 Submittal Information

- Property Information
- Elevation Information
- Community Acknowledgement
  - Requests involving fill
  - Requests involving inadvertent inclusion in floodway
- Copy of effective FIRM (FIRMette)
- Copy of Subdivision Plat Map OR copy of the Property Deed accompanied by Tax Map or other certified map

109

MT-1 Technical Guidance

- Regulatory Floodway
- Zone AO LOMA process
- Metes & Bounds Considerations (removing portion of property)



110

Intervening High Ground

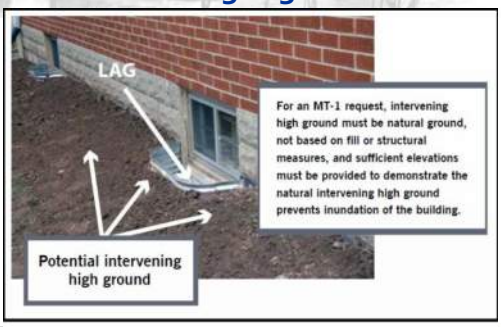


Figure 17: Use of Intervening High Ground – Window Well

Intervening High Ground

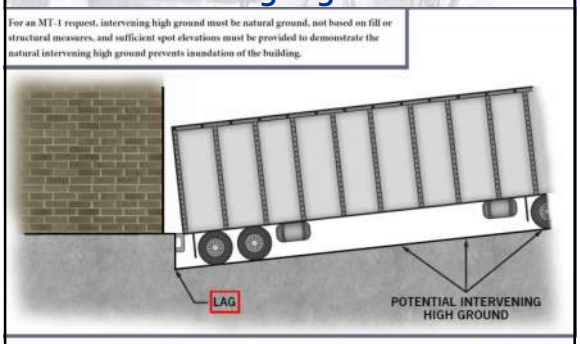


Figure 18: Use of Intervening High Ground – Loading Dock

Intervening High Ground

- Elevation of subject must show LAG or lowest lot elevation ; NOT the elevation of the intervening high ground.
- Certified comments must be included that explain the presence of naturally occurring intervening high ground and reference the data submitted in support of the intervening high ground.

113

Letters of Map Revisions (LOMR) (MT-2 Form)

- LOMR (Existing) and CLOMR (Proposed)
  - Changes to boundaries of the Floodplains or Floodways or to the BFE (either higher or lower)
- Processing Fee
- Upon receipt of all required data, FEMA issues a determination within 90 days.

114

MT-2 Application Forms

- Form 1 – Overview & Concurrence (req for all)
- Form 2 – Riverine Hydrology & Hydraulics (if req)
- Form 3 – Riverine Structures (if req)
- Form 4 – Coastal Analysis (if req)
- Form 5 – Coastal Structures (if req)
- Form 6 – Alluvial Fan Flooding (if req)

115

MT-2 Submittal Requirements

1. Completed application forms
2. Narrative on project and submittal
3. Hydrologic computations
4. Hydraulic computations
5. Certified topographic map
6. Annotated FIRM to show changes
7. Any documentation to satisfy NFIP requirements
8. Review fee payment
9. Endangered Species Act compliance documentation for CLOMRs only.

116

Online LOMC

- Available to any applicant who would like to submit a LOMC request directly to FEMA
- All types of LOMC requests can be submitted along with payment (if req.)
- Applicants can check status at any time
- Determination timeframe slightly quicker than mailing forms

117

Benefits of Online LOMC

- Ability to save and come back to application
- Immediate receipt of case number
- Real-time updates
- Manage multiple LOMC requests
- More efficient communication with LOMC reviewer staff

118

Online LOMC

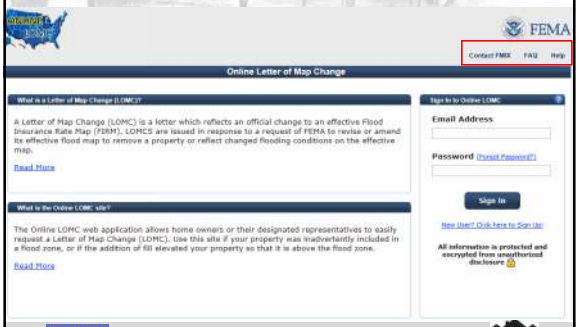
- **Online LOMC Submittal Tool**
  http://www.fema.gov/change-flood-zone-designation-online-letter-map-change
- **Online LOMC Training**
  http://www.fema.gov/online-lomc-training
  - Online LOMC Tutorial for Amendments
  - Online LOMC Tutorial for Revisions

119

Welcome to the Online LOMC Tutorial for Amendments

FEMA RiskMAP

Online LOMC



121

eLOMA

- Web-based application
- Provides licensed land surveyors and professional engineers with system to submit simple LOMA requests
- Only for a sub-set of LOMA requests
- Determination in minutes
- Must be Licensed Professional to use

122

Introducing eLOMA: eLOMA Criteria

What kind of LOMAs can LPs and CPs submit?

- eLOMA accepts all **LOMA** requests that are not:
  - Considered within a coastal zone (Flood Zone V) or an alluvial fan
  - Modified by fill to raise the elevation of the structure
  - Currently being processed by another LOMA application by FEMA
- Additionally, eLOMA does not accept:
  - Conditional Letters of Map Amendment (**CLOMA**)
  - Conditional Letters of Map Revision Based on Fill (**CLOMR-F**)
  - Letters of Map Revision (**LOMR**)
  - Letters of Map Revision Based on Fill (**LOMR-F**) requests

FEMA RiskMAP

Table of Contents

https://hazards.fema.gov/femaportal/resources/eLOMA_User_Tutorial_2015_FINAL.pdf

Questions

125

Upcoming Education and Training

University of New Hampshire

Programs Certificates Seminars & Conferences Youth Programs/Camps Search Programs

Professional Development & Training

Surveying in Floodplains
May 10, 2017 (Wednesday)
9:30 am to 4 pm
UNH - Manchester

126